

# Klineline Bridge Emergency Repair

## Highway 99 at Salmon Creek Update #2



### **What is the problem?**

A recent bridge inspection and subsequent analysis show that the bank material around Pier 4 at the north end of the Klineline Bridge has eroded to the point that the bridge could have trouble withstanding winter flows. Based on this information, it has been determined that the condition could cause a catastrophic failure of the bridge in a flood event and that temporary repair/stabilization measures are necessary.

### **How did this happen and when?**

The erosion occurring there has been going on for more than 50 years.

Repairs have been completed in 1949, 1956 and 1992. Some of that work included jacking up piers 18" vertically, placing pile, rebuilding piers, placing riprap, installing sheet pile and grouting around the sheet pile.

The extent of more recent erosion was determined critical during a low flow inspection on August 3rd, 2006. Clark County immediately hired structural, geotechnical and hydraulic engineering consultants to review the current status of the bridge and provide a recommendation for improvements to stabilize the structure.

### **Is the bridge safe now?**

Currently, the bridge is safe. This emergency action is a proactive measure to ensure continued safe travel across the structure until the replacement of this bridge is complete. Bridge replacement is now scheduled to begin in 2008. The bridge was posted with load limitations in early 2005. Those restrictions remain in place.

### **How will you fix it?**

Engineers are currently working on a detailed design to protect the bridge from further erosion. This will also include inspection of the soils around Pier 4 (at the north end of the bridge) to ensure that the bridge structure is properly supported. The bridge repair may require temporary closure of some traffic lanes and sidewalk to allow contractor access while work is in progress. The county expects repair work to begin before mid October.

### **How much will it cost?**

Depending on the extent of the design, the repair/stabilization could cost approximately \$200,000.

### **Will you need to close the bridge/highway during repairs?**

Complete road closures for the repair work are unlikely. However there could be some single or two-lane closures during the project. The repair project is expected to take about two weeks to complete.

### **Where are the alternate routes?**

Interstate 5 will be the primary alternate route between N.E. 134th Street and N.E. 99th Street.

## **Will the repair work harm fish in Salmon Creek?**

The work area will be isolated and fish will not be harmed. Workers will employ standard approved practices to protect shoreline habitat and wildlife.

## **When will Betts Bridge be complete & allow through traffic on Salmon Creek Avenue?**

Betts Bridge will be completed and Salmon Creek Avenue open to traffic December 2006.

## **How can you be sure the bridge will stay safe after repair?**

Protecting public safety is the number one priority. The county will take two approaches to accomplish this. First: The repair project will be designed to keep the bridge in safe operating condition until it can be replaced. Second: The county will use a variety of measuring instruments to closely monitor the bridge and the stream bed of Salmon Creek for any changes that potentially make the bridge unsafe for use.

Even with repairs in place, winter flooding in the creek could cause rapid erosion around the piers. There may be times this winter when high flows in Salmon Creek could lead to occasional bridge closures. These closures could be imposed on short notice. The county will work closely with emergency services agencies, C-Tran, the Vancouver School District, local businesses, community organizations and the media to provide advance warning about closures as much as is possible.

If floodwaters cause lasting damage to the bridge, the county may be forced to close the structure until it can be replaced.

## **Will this affect plans for the bridge replacement project?**

It is difficult to say at this point what impact the current situation will have on the planned 2008 replacement project. Depending on results from the engineering investigation and subsequent monitoring, the replacement project team may need to adjust construction designs and timing of the work.

## **How can I stay informed about what is happening with the bridge over the coming months and years?**

Please visit the project website often at [www.clark.wa.gov/klineline](http://www.clark.wa.gov/klineline) for the latest information on the emergency work and the longer term replacement project.